CLAIM LISTING

Claim 1 (Original): A method of determining *in vitro* the capacity of a cell population to induce bone formation *in vivo* comprising the steps of:

a) providing a sample of a cell population;

b) dividing said sample into a first and a second part containing an equal number of cells;

c) culturing the first part in the presence of an osteogenic stimulation factor;

d) culturing the second part in the absence of an osteogenic stimulation factor;

e) determining degrees of expression of a bone-specific protein; and

f) comparing the degrees of expression of the bone-specific protein of the first part and the second part thereby providing a measure for the capacity of the bone cell population to induce bone formation *in vivo*.

Claim 2 (Original): A method according to claim 1, wherein the sample of a cell population is obtained through a biopsy from a patient who has to undergo surgery to receive a bone implant.

Claim 3 (Original): A method according to claim 2, where in the cell population comprises human bone marrow stromal cells, and/or human osteoprogenitor cells.

Claim 4 (Currently Amended): A method according to claim 1 ~~any of the preceding claims~~, wherein the osteogenic stimulation factor is dexamethasone or vitamin D3.

Claim 5 (Original): A method according to claim 4, wherein the osteogenic stimulation factor is used in an amount of 10^{-10} to 10^{-5} M.

Claim 6 (Currently Amended): A method according to claim 1 ~~any of the preceding claims~~, wherein the cells are cultured for 2 to 15 doubling times.

Claim 7 (Currently Amended): A method according to claim 1 ~~any of the preceding claims~~, wherein the cells are cultured in a culture medium based on α-MEM.

Claim 8 (Original): A method according to claim 7, wherein the culture medium further comprises L-ascorbic acid 2-phosphate, an antibiotic, serum, and/or a growth factor.

Claim 9 (Original): A method according to claim 8, wherein the growth factor is basic fibroblast growth factor (bFGF).

Claim 10 (Original): A method according to claim 8, wherein the antibiotic is chosen from the group of penicillin G, gentamicin, fungizone, and streptomycin.

Claim 11 (Currently Amended): A method according to claim 1 ~~any of the preceding claims~~, wherein the bone-specific protein is chosen from the group of alkaline phosphatase, osteocalcine, bone sialo protein, osteopontine and osteonectine.

Claim 12 (Original): A method according to claim 11, wherein the bone-specific protein is alkaline phosphatase, of which the degree of expression is determined by labeling the cells

with an antibody specific for alkaline phosphatase and detecting labeled cells using flow cytometry.

Claim 13 (Original): A method according to claim 12, wherein the antibody is anti-ALP (hybridoma B4-78).

Claim 14 (Original): A method according to claim 11, wherein the bone-specific protein is alkaline phosphatase, of which the degree of expression is determined by contacting the cells of the first and second parts to a substrate for alkaline phosphatase, allowing the substrate to be converted to a reaction product, and detecting the reaction product.

Claim 15 (Original): A method according to claim 14, wherein the substrate is para-nitro phenyl phosphate or alpha-naphtol AS-B1 phosphate.

Claim 16 (Original): A method according to claim 15, wherein the cells are contacted with alpha-naphtol AS-B1 phosphate in the presence of a diazonium salt, preferably fast blue RR.

Claim 17 (Original): A method according to claim 15, wherein the cells are contacted with para-nitro phenyl phosphate, and the reaction product is reacted further with Sigma 104R phosphatase substrate and subsequently detected by UV.

CONCLUSION

Applicants respectfully request entry and consideration of the amendments set forth above.

Respectfully submitted,

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